

Applicant: Kowal *et al.*
For: LOW POWER ULTRASONIC FLOW METER

ABSTRACT OF DISCLOSURE

5 A flow meter is powered by a loop power supply which supplies a supply voltage.
A load is powered by a load voltage and includes at least a processor for calculating a flow
rate, an ultrasonic transducer power circuit, and an ultrasonic transducer receiving circuit. A
power regulating circuit is disposed between the loop power supply and the load. The
power regulating circuit includes a power converter responsive to the supply voltage to vary
10 the load voltage in response to a control signal, a safe storage device between the converter
and the load for storing power when not needed by the load and for delivering power to the
load when required by the load, and a control subsystem for providing the control signal to
the converter based on the setting of the loop power supply by the load. A power
management subsystem is configured to detect the load voltage and to reduce the power
15 consumption of the load at one or more predetermined set points.